

DESCRIPTIONS OF NEW OR INSUFFICIENTLY DESCRIBED FISHES FROM QUEENSLAND WATERS.

By J. DOUGLAS OGILBY.

THE following paper contains accurate descriptions of twelve species of fishes from the coast of Queensland, seven of which are considered new to science, while the remainder are redescrptions of species, which, like *Dules humilis* De Vis and *Serranus estuarius* Macleay, are not described with such detail as to be recognizable without the types.

The species described as new are—

1. CARCHARIAS ARENARIUS; fam. *Carchariidæ*; Moreton Bay, southward to Tasmania;
2. CARCHARHINUS STEVENSI; fam. *Galeidæ*; Bustard Bay and Nor-West Islet;
3. MYLIOBATIS HAMLYNI; fam. *Dasybatidæ*; Moreton Bay;
4. AMIA BERTHÆ; fam. *Cheilodipteridæ*; Dunk Island;
5. AMIA NIGRIPES; fam. ead.; Moreton Bay;
6. CHERODON WEBERI; fam. *Labridæ*; Aru Islands; and
7. CALLIONYMUS MACDONALDI; fam. *Callionymidæ*; Moreton Bay.

While the redescrbed species are :—

1. AMPHISILE CRISTATA De Vis; fam. *Centriscidæ*; coast of Southern Queensland;
2. POLYNEMUS SPECULARIS De Vis; fam. *Polynemidæ*; Rivers of Southern Queensland;
3. DULES HUMILIS De Vis; fam. *Centrarchidæ*; Queensland;
4. APISTUS CALOUNDRA De Vis; fam. *Scorpænidæ*; Caloundra; and
5. SERRANUS ESTUARIUS Macleay; fam. *Serranidæ*; Mary River.

For one of these, *A. caloundra*, I find it necessary to form a new genus, *Apistops*, on account of the short pectoral fin and other characters, while it is necessary to found another new genus, *Paratrigla*, to accommodate those forms which, in addition to the large scales of *Lepidotrigla*, have a spinigerous lateral line such as *Trigla pleuracanthica* Richardson, etc.

CARCHARIIDÆ.

CARCHARIAS ARENARIUS sp. nov.

Odontaspis americanus (part.) *Günther, Brit. Mus. Catal. Fish., viii, 1870, p. 392: Tasmania. Not Mitchill 1815.

Odontaspis taurus McCoy, Prodr. Zool. Vic., dec. vii, 1882, p. 13, pl. lxiv, figg. 1—c. : Hobson's Bay. Not Rafinesque 1810.

GRAY NURSE; SAND SHARK; SHOVEL-NOSED SHARK (Melbourne).

Depth of body 6·33, length of head 5·8, predorsal length 2·33, length of upper caudal lobe 4, of pectoral fin 7·2 in total length. Width of head 1·75, depth of head 1·5, preoral length 4·9, width of interocular 3, of internasal 4·45, of mouth 2·8, vertical height of first dorsal 3 in length of head.

Body fusiform and robust, its dorsal profile evenly and gently arched from the tip of the snout to the base of the caudal fin, which is not preceded by a pit. Head not depressed, its length 2·3 in the trunk. Snout short and obtusely pointed, its length 3 in the space between the eye and the first gill-opening, and 1·75 in the width of the mouth; space between inner angle of nostril and mouth 3·5 in its distance from the tip of the snout; tip of mandible rounded. Teeth in $\frac{19-0-19}{17-0-17}$ series; first tooth of the outer series smaller than the second or third; fourth, and often fifth, tooth in the upper jaw much smaller than those adjacent to it and about as long as the tenth; the last few series in both jaws small and crowded. Eye inserted above the third quarter of the mouth-cleft, its diameter one fifth of the preoral length; interocular region strongly convex. Tail short, 1·33 in the head and trunk.

First dorsal fin inserted one half nearer to the ventral than to the pectoral, its anterior border convex, with the outer angle obtusely pointed; posterior angle also obtuse, not quite extending to above the origin of the ventral; vertical height of fin 1·15 in its basal length. Second dorsal smaller than the first, its distance from the origin of the first dorsal 1·55 in that from the tip of the tail;

* The South Australian example—10½ feet long—mentioned by Günther as being in the British Museum collection should rightly be referred to the very distinct *Carcharias tricuspidatus*, Day. (See Day, Fish. India, p. 713). Day's species also occurs on the New South Wales coast, but I am still uncertain as to its occurrence on the South Australian coast, as Zietz gives us no details and omits *C. tricuspidatus*, besides placing it and *Mitsukuina ovstoni* in a quite distinct family.

interdorsal space 2.1 in the base of the first dorsal. Caudal well developed, the upper angle pointed; anterior border of lower lobe 3.2 in the length of the upper. Anal originating below the last third of and about the same size as the second dorsal, its basal length one seventh more than its distance from the caudal, which is 1.65 in that from the ventral. Pectoral inserted a little nearer to the ventral than to the tip of the snout and not nearly extending to the vertical from the dorsal, the anterior and posterior borders convex, the outer feebly emarginate. Space between ventral and anal 2.7 in its distance from the pectoral.

Spiracle pore-like, above the angle of the mouth. Gill-openings wide, the first 7.5 times the eye-diameter and 1.15 in the third, which equals the fourth and fifth.

Sandy gray above, dull white below.

Described from a fine mounted specimen in the Queensland Museum; it was captured many years ago in Moreton Bay and measures 285 cm.

So far as I can ascertain the generic name *Triglochis* antedates *Odontaspis*, the synonymy apparently being—

Triglochis Muller & Henle, Arch. f. Nat. 1837, i, p. 396 (*taurus*).

Odontaspis Agassiz, Poiss. Foss., iii, pt. 2, 1838, p. 87 (*ferox*.)

GALEIDÆ.

CARCHARIAS STEVENSI sp. nov.

SHORT-TAILED SHARK.

Depth of body 5.3 to 5.75, length of head 4.9, predorsal length 3.35 to 3.55, length of caudal 3.5 to 3.8, of pectoral 4.2 to 4.5 in total length. Width of head 1.45, depth of head 1.75, preoral length 3.2, interocular width 1.9, internasal 3.15 to 3.35, width of mouth 2.25, vertical height of first dorsal 1.25 to 1.33, length of ventral 2.35 to 2.7 in length of head.

Body robust. Head somewhat depressed, its length 1.85 to 2.2 in that of the trunk. Snout short and blunt, its length 1.7 in the space between the eye and the first gill-opening and 1.4 in the

width of the mouth, which is one fourth more than its ramal length; space between inner angle of nostril and mouth 1.25 in its distance from the tip of the snout; tip of mandible rounded, not extending forward to the vertical from the front margin of the eye; labial grooves short, the upper rather deeper than the lower. Teeth in the jaws dissimilar, in $\frac{14-1-14}{15-0-15}$ series, those of the upper triangular and slightly oblique, finely serrated on both edges, and with scarcely a trace of a notch; those of the lower narrow, erect, and entire, with a moderately broad base, the anterior pair very small. Eye inserted midway between the tip of the snout and the second gill-opening, its diameter 3.5 to 4 in the preoral length, which is 1.66 in the interocular width. Tail short, its length 1.25 to 1.4 in that of the head and trunk.

First dorsal fin inserted one half nearer to the pectoral than to the ventral, its anterior border linear, with the outer angle obtusely pointed; the posterior angle produced and acute, not nearly reaching to the vertical from the ventral; vertical height of fin one tenth more than its basal length. Second dorsal inserted about one eighth nearer to the tip of the tail than to the origin of the first dorsal; interdorsal space 1.2 in the predorsal length and 1.7 time the base of the first dorsal. Caudal fin long, the upper angle obtusely pointed; anterior border of lower lobe 2.1 in the upper lobe. Origin of anal opposite to that of second dorsal, its length 1.2 in its distance from the caudal, which is 1.2 to 1.4 in that from the ventral. Pectoral inserted a little nearer to the tip of the snout than to the ventral and extending to below the end of the first dorsal, the anterior and posterior borders convex, the outer emarginate; upper angle pointed, lower rounded. Space between ventral and anal 3 to 3.2 in its distance from the pectoral.

Gill-openings wide, the last 1.5 in the third, which is 2.5 to 3 times the eye-diameter.

Ash blue above, white below.

Described from two specimens, measuring 164 and 187 millim., taken by Mr. James Hirst Stevens in Bustard Bay and at Nor-West Islet.

The most noticeable character in this species is the extreme shortness of the postventral portion of the body, which is at least

one fourth less than the head and trunk. This would naturally suggest *Carcharias brachyurus* Günther, but my species differs from that in the short and broadly-rounded snout, the absence of a notch on the outer margin of the upper teeth, the absence of serrature in the lower teeth, the more anterior position of the pectoral fin, and the abnormal shortness of the space between the vent and the base of the caudal. In his description of *C. brachyurus* Dr. Günther makes no mention of this last character, and it is therefore to be inferred that the shortness of the caudal fin (not that of the tail) suggested the name to him.

DASYBATIDÆ.

MYLIOBATIS HAMLYNI sp. nov.

PURPLE BULL RAY.

Length of disk* 1.85 in its width. Length of head† 2.75, of snout 4.75, width of interocular region 3, length of ventral 4 in length of disk. Width of mouth 1.5, diameter of eye 2.66, inter-nasal width 1.7 in length of snout.

Greatest width of disk slightly behind the front margin of the abdominal region, its anterior and posterior borders gently undulous, the outer angle obtusely pointed and bent conspicuously backwards. Tip of snout broadly rounded; internasal frenum smooth; hinder border of nasal flap truncate and coarsely fringed, the tips of the fringes lobate; anterior angle of nostril nearer to middle of flap than to tip of snout. Upper jaw with 6, lower with 9, series of dental plates, each consisting of 7 teeth, a wide transverse median, which gradually increasing in width from the front, and 3 small laterals directed outwards and backwards, and of equal size throughout. In the upper jaw the first median is as wide as, the last 2.2 times the 3 lateral teeth; in the lower the first is half as wide as, the third as wide as, and the last twice as wide as the lateral 3, fifth median tooth of lower jaw 2.6 times as wide as long. Eye small, 2.4 in the feebly concave interorbital‡ width, which is

* From tip of snout to posterior angle of vent.

† From tip of snout to first gill-opening.

‡ As distinguished from "interocular," the width of which is 4.15 times the eye-diameter.

one third more than the width of the mouth; interorbital fontanelle deepest and widest anteriorly, its greatest width 2.35 in its length. Body smooth.

Dorsal fin originating behind the tip of the ventrals, its vertical height 1.33 in its length, which equals the eye-diameter; tail long and slender,* with a well developed spine, but without folds; outer border of ventral feebly rounded, its base 1.7 in its length.

Spiracle wide and slightly oblique, outwardly extending forward to the postero-inferior angle of the orbit, the inner opening wider than the eye-diameter. Gill-openings narrow and subequal, the middle one 2.4 in the same.

Upper surface and tail behind the spine purple, the pectoral fins shading outwards to olive-brown; lower surfaces cream-color.

Described from a young example obtained in Moreton Bay during January 1911; length of disk 152 millim., width 280.

The nearest ally of this species is the North-eastern Atlantic *M. aquila*, from which it differs, as noticed by Dr. Günther, in the much narrower median teeth, those of the upper jaw being rather less than 2, of the lower rather more than 2.5 times as wide as long.

Named for Dr. Ronald Hamlyn Hamlyn-Harris, the Director of the Queensland Museum.

CENTRISCIDÆ.

CENTRISCUS CRISTATUS (De Vis).

Amphisile cristata De Vis, Proc. Linn. Soc. N. S. Wales, ix, 1885, p. 872: Noosa Beach, Q.

SMOOTH-JOINTED RAZOR FISH.

D. iii, 12; A. 13 or 14; C. 10; P. 12; V. 3. Depth of body 4.65 to 5.15, length of head 2.66 to 2.75, of snout 3.5 to 3.75, of terminal plate 2.6 in length of body to root of caudal fin. Length of first lateral plate 1.65 to 1.85, of first dorsal spine 2 to 2.15, height of soft dorsal 3.65, of anal 6.35 to 6.6, of caudal 4.4 to 4.55, of pectoral 3.15 to 3.4 in length of head.

* The tail is unfortunately broken, the part still left being 2.2 times the length of the disk.

Upper profile of body rounded anteriorly, sharply ridged posteriorly, the sides rounded and inferiorly attenuated, so as to form an exceedingly fine cultrate cutting edge, its greatest width 1.5 to 1.6 time the eye-diameter. Upper profile of head linear to above the eye, from whence there is a scarcely perceptible ascension to the suture of the first dorsal plate, beyond which the contour of the back is evenly and gently rounded to slightly behind the suture of the terminal plate, which is linear, with the extremity slightly bent downwards. Diameter of eye 2.1 to 2.4 in the postorbital portion of the head, and equal to or a little more than the inter-orbital region, which is strongly convex, and longitudinally striated, the striæ originating from a low knob above the posterior border of the eye, from which also fan-like striæ project over the temporal and occipital regions. Opercle tetragonal, as long as or a little longer than deep. Lateral plates mostly sculptured like the head, the three middle plates with the striæ radiating from a central knob, those of the first interrupted by an oval pitted depression, thrice as long as wide, and rather longer than the pectoral fin; those of the last longitudinally striated throughout nearly its entire length, the knob from which they radiate being situated near the suture; this plate is also deeply grooved immediately below the dorsal ridge; second and third lateral plates of equal width, twice as long as the first, the third narrower, 1.25 in the preceding plate; second lateral plate as high as long, its lower edge much nearer to the ventral than to the dorsal profile, and almost wholly absorbed by a fan-shaped opaque area, which marks the position of the air-bladder; sutures of all the plates smooth. Ventral plates 12, the first very small; the second tetragonal with the anterior suture one third of the height of the posterior; the third fan-shaped; the fourth largest, with its upper border nearly twice as long as the lower, and having the pectoral fin inserted in a depression, which occupies the postero-superior angle of the plate; the fifth, sixth, and seventh about equal, the others gradually decreasing in size to the last.

Spinous dorsal with the first ray close to and parallel with the terminal spine, straight except at the extreme tip, which is slightly bent downwards and rather longer than the operculo-pectoral interspace; second and third spines graduated and strongly curved throughout, the second produced beyond the membrane with the

free tip dilated, the third ending with the membrane and not dilated. Second dorsal with a slight downward obliquity, the upper rays much the longest, 2·8 in the snout and 1·7 in the spine, the lower rays very short, almost rudimentary. Caudal fin feebly emarginate, 1·25 in the longest dorsal rays, the peduncle, which is covered with soft naked skin, being the only unarmored portion of the body. Anal fin rounded, the rays directed downward, the anterior middle longest, 1·4 in length of the caudal. Length of head behind the anterior border of the eye 1·95 in the space between the opercle and the pectoral, the outer border of the fin truncate. Ventral inserted on the suture between the fifth and sixth ventral (second and third abdominal) plates, and midway between the lower soft dorsal ray and the orbit, its length in the male twice the eye-diameter.

Life-colors: Silvery; a deep red band from the base of the snout to the eye, followed by a golden spot on the temporal region; continuous with this is a red or orange band, which bisects the opercle, passes through the base of the pectoral, and extends along the side to the root of the terminal spine, the posterior portion being curved upward and sometimes supplemented by a short parallel superior band; abdominal ridge pale yellow, crossed by eight to ten oblique red bars directed downwards and backwards.

Preserved in a weak formalin solution the greater part of the body becomes a dull red gold, which deepens towards the ventral surface, upon which the sutures and the abdominal bars stand out conspicuously as silvery lines and bands; dorsal plates and terminal spine dull yellowish gray; throat and breast silvery. Proximal half of snout golden brown, with a narrow darker bar from the eye through the nostrils; suborbital region, base of snout, and edge of subopercle silvery, the rest of the opercles bluish black.

Dry examples are a dull grayish silvery, the region between the ventral and anal fins dull yellow, and the proximal half of the snout as in the preceding.

Total length 300 millim.

Coast of Southern Queensland between Moreton Bay and Hummocky Island, common on sandy or muddy ground in water varying from 7 to 33 fathoms.

Described from four specimens, 250 to 297 millimeters long, the largest of which, Mr. De Vis' type, was picked up on the beach at Noosa, and is a sun-dried example, with all the fins except the spinous dorsal and anal broken short off, so that the figures given in the original description cannot be relied on. Two of the remaining specimens are in the possession of the State Inspector of Fisheries, the other in the collection of the Amateur Fishermen's Association of Queensland, and were respectively taken off Boomerang Hill, Jenny Lind Buoy (Port Curtis), and Cape Capricorn; from these three examples, which are perfect, the greater part of the above description has been taken. In addition to the five localities mentioned above examples were trawled off Double Island Point, Hervey, Platypus, and Bustard Bays.

From the only other known species, *C. scutatus*,* our fish may be distinguished by the following characters, those of the former being taken from Günther's detailed description.†

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|--|-----|-----|-----|-----|-----|-----|-----|-----|------------------|
| α^1 . Opercle ovate, nearly twice as long as deep; sutures of lateral plates serrated | ... | ... | ... | ... | ... | ... | ... | ... | <i>Scutatus</i> |
| α^2 . Opercle tetragonal, as long as or a little longer than deep, sutures of lateral plates smooth | ... | ... | ... | ... | ... | ... | ... | ... | <i>Cristatus</i> |

POLYNEMIDÆ.

POLYDACTYLUS SPECULARIS (De Vis).

Polynemus specularis De Vis, Proc. Linn. Soc. N.S. Wales, viii, 1883, p. 285: Brisbane River.

LESSER TASSEL FISH.

D. viii, i 14 or 15; A. iii 16 or 17; P. 16 + vii: Sc. 6/53 to 55/13 or 14 Depth of body 2·8 to 3, length of head 3·6 to 3·75, of caudal fin 2·85 to 3·05, of pectoral 3·45 to 3·6, of ventral 5·8 to 6·25 in length of body. Length of snout 4·25 to 4·6, diameter of eye 4·25 to 4·5, width of interorbit 3·7 to 4, length of maxillary 2·15 to 2·3, height of spinous dorsal 1·15 to 1·25 in length of head.

Body elliptical, the dorsal contour rather higher than the ventral; caudal peduncle as deep as long, its least depth 1·7 to 2·25 in the depth of the body. Upper profile of head undulous;

* *Centriscus scutatus* Linnæus, Syst. Nat., ed. 10, 1758, p. 336: East Indies.

† *Amphisile scutata* Günther, Brit. Mus. Catal. Fish., iii, 1861, p. 525: Philippines, Singapore, China.

snout obtuse, its anterior border linear or feeble convex and strongly declivous, as long as the eye-diameter; tip of upper jaw vertically below the anterior nostril; diameter of eye 1.05 to 1.2 in the convex interorbital width; adipose lid entirely covering the eye and cheek, extending forward round the nostrils, and backward more than midway to the preopercular border; maxillary extending beyond the eye, the width of its distal extremity equal to the depth of the preorbital, and 1.85 to 2.15 in the eye-diameter. Vertical limb of preopercle evenly and finely serrated. Head entirely scaly, except the anterior border of the snout.

Length of first dorsal 1.85 to 2 in that of the second, and 2 to 2.2 in that of the third and longest spine, which is equal to or a little less than the anterior soft rays. Middle caudal rays 2.5 to 2.6 in the upper lobe. Anal originating below the fourth or fifth dorsal ray and 1.1 to 1.33 in the length of the soft dorsal; third spine longest, about 2.5 in the anterior rays, which are 1.2 to 1.4 in those of the soft dorsal. Pectoral pointed, a little longer than the head, and extending to or not quite to the vertical from the vent; upper free ray longest, as long as or a little longer than the undivided fin. Ventral reaching beyond the vent, its length 1.66 to 1.8 in that of the pectoral.

Gill-rakers longer than the gill-fringes, 18 or 19 on the lower branch of the anterior arch, the longest 1.25 in the eye-diameter.

Yellow or pale yellowish brown, the back tinged with darker brown or plumbeous, all the scales, but especially those of the occiput, nape, and anterior portion of the back, powdered with dusky dots; lower surface of snout with similar but larger dots crowded together to form a blackish patch. Fins yellowish brown, the spinous dorsal, pectorals, tips of soft dorsal, anal, and ventrals, edges and lobes of caudal profusely dotted with dull blue or black.

Described from four specimens, measuring from 189 to 230 millim., caught in the Brisbane River and Moreton Bay. I have also examined Mr. De Vis' type, a wretched specimen, in the Queensland Museum. This species agrees closely with *Polynemus multiradiatus* Günther,* so far as one may judge from the few characters given by that author; if, however, the locality given be correct, our species is probably valid. I do not know what Klunzinger's fish of the same name from South Australia may be.

* Brit. Mus. Catal. Fish, ii, 1860, p. 324: China.

CENTRARCHIDÆ.

KUHLIA HUMILIS (De Vis).

Dules humilis De Vis, Proc. Linn. Soc. N. S. Wales, ix, 1884, p. 395 : Queensland.

SILVER FLAGTAIL.

Pl. vi, fig. 1.

D. x 11 ; A. iii 11 ; P. 14 : Sc. 4/50/11. Depth of body 2·5, length of head 2·85, of caudal fin 3·15, of pectoral 4·25, of ventral 4·25 in length of body. Depth of peduncle 2·75, length of snout 3·75, diameter of eye 2·75, width of interorbit 3·6, length of maxillary 2·6, longest dorsal spine 1·5, longest anal 2·3 in length of head.

Body ovate, the dorsal and ventral contours about equally arched, its depth one eighth more than the length of the head ; caudal peduncle slender, its length 1·35 time its depth, which is 3·1 in that of the body. Upper profile of head and nape rectilinear and moderately oblique, with a slight convexity in front of the dorsal ; snout short and rounded, 1·35 in the eye-diameter, and about equal to the flat interorbital width ; lower jaw projecting ; maxillary extending to below the anterior border of the pupil, the width of its distal extremity 3·66 in the eye-diameter. Preorbital and preopercle feebly serrulate ; opercular spines strong, the lower the longer. Upper surface of head wholly naked ; cheeks and opercles with finely ciliated scales, in four series on the former.

Dorsal originating behind the base of the pectoral, its outer border strongly arched ; first spine shortest, 1·4 in the ninth, which is 1·6 in the last ; fourth longest, a little longer than the fifth and one fourth longer than the anterior ray ; last spine nearly as long as the third or sixth. Middle caudal rays 1·6 in the outer and as long as the head in front of the hinder margin of the eye, the lobes acutely pointed. Anal originating below the first dorsal ray, its distance from the caudal 1·7 in its length ; second spine a little shorter than the third, which is rather less than the tenth dorsal and rather more than the anterior rays. Fourth pectoral ray longest, 1·5 in the length of the head, and not extending to the vertical from the vent. Ventral as long as the pectoral, reaching to the anal.

Gill-rakers 22, the longest half the eye-diameter and twice as long as the gill-fringes.

Uniform silvery, darker on the back. Lobes and tips of the inner caudal rays dark brown.

Described from a Queensland specimen 128 millim. in total length, 102 to the root of the caudal fin.

This species differs from *Kuhia mato* (Lesson),* with which it was associated by Boulenger,† in the following characters among others:—

Depth of body 2·66 or less, length of head 3·33 or less in length of body; snout 1·5 or less in eye; interorbit 3 in head; scale-formula 56/53-56/14-15; fifth dorsal spine longest; anal longer than its distance from caudal, which is deeply forked, its middle rays 2·5 or less in the outer *Mato*.

Depth of body 2·5, length of head 2·85 in length of body; snout 1·35 in eye; interorbit 3·6 in head; scale formula 4/50/11; fourth dorsal spine longest; anal nearly twice as long as its distance from caudal, which is deeply emarginate, its middle rays 1·6 in the outer *Humilis*.

CHEILODIPTERIDÆ.

AMIA BERTHÆ sp. nov.

MANY-BANDED PERCELLE.

Pl. v, fig. 1.

D. vii, i 9; A. ii 8; P. 16: Sc. 2/23/8. Depth of body 2·5, length of caudal peduncle 4·8, of head 2·6, of caudal fin 3·8, of pectoral 4·15, of ventral 3·7 in length of body. Depth of caudal peduncle 2·33, length of snout 3·8, diameter of eye 3, width of interorbit 4, length of maxillary 2, longest dorsal spine 1·9, longest ray 1·6, second anal spine 2·6, longest ray 1·6 in length of head.

Body robust, the dorsal contour much more arched than the ventral, its depth a little more than the length of the head; caudal peduncle short and deep, its least depth 1·25 in its length. Upper

* Lesson's name not only has page-precedence over that of Cuvier and Valenciennes, but the latter authors took their description from Lesson's figure only (*Nous ne connaissons encore cette espèce que par un dessin fait d'après nature*) not from the fish itself as did the former author. That Lesson's name was spelt incorrectly, possibly through a mere clerical or press error, does not invalidate its or its author's claim.

The true *K. mato*, the type-locality of which is Tahiti, though said to range from the Hawaiian Archipelago eastward and southward as far as the Cape Seas, has not been as yet recorded from Australia; it is therefore possible that the South African and Mauritian species may on further examination prove, like the Australian, to be separable.

† No blame can be attached to Dr. Boulenger for this erroneous identification, for the description of *Dules humilis* is so drawn up that, without examination of the type, it would be impossible to place it with any certainty. For instance, the length given by its author—4 inches—is that of the body (s.c.), but in the comparative measurements, while the depth of the body is given to that scale, the length of the head is taken from the total length (c.c.) of 5 inches.

profile of snout linear and moderately declivous, of head feebly concave, of nape gently rounded; length of snout 1.25 in the diameter of the eye, which is 1.33 time the convex interorbital width. Upper jaw slightly the longer; maxillary extending to below the posterior border of the pupil, the width of its distal extremity 2.1 in the eye-diameter. Outer edge of preopercle denticulated throughout its entire length. Scales adherent; nape scaleless; a single interdorsal scale.

First dorsal fin originating slightly in advance of the pectoral, well developed, the spines strong, the second 2.25 in the third, which is a little longer than the fourth and 1.15 in the second and third rays. Caudal rounded. Anal originating below the first dorsal ray, its rays as high as those of the dorsal. Pectoral rather short, scarcely extending to the vertical from the anal. Ventral long, the second ray longest, reaching to the second anal ray, and somewhat longer than the pectoral, its spine a little shorter than that of the soft dorsal, which is 1.2 in the height of the spinous.

Gill-rakers 4×12 , the longest 2.35 in the eye-diameter.

Pale vinous brown, the sides with seven dark brown longitudinal bars; the first commencing below the origin of the first dorsal, the second on the suprascapular region, and the third at the upper angle of the opercle; these three run parallel to the dorsal profile and terminate at the base of the upper half of the caudal; the lower four bars are straight, the upper (or fourth body-bar) from behind the upper third of the eye unites with the third below the last rays of the soft dorsal, the fifth from behind the middle of the eye to the base of the lower caudal rays, the sixth and seventh respectively from behind and below the pectoral to the base of the last anal rays, the sixth being curved abruptly downwards posteriorly; in addition to these, there are three broader transverse bands—the first below the spinous dorsal, the second below the posterior half of the soft dorsal, and the third round the base of the caudal. Occiput and under surface of head pale yellowish brown, the nape with a bluish gloss; opercle with a small round brown spot on its upper half and a large blackish blotch on its lower. Spinous dorsal brown, with the tips of the longer spines darker; soft dorsal with a large round

black spot between the fourth and seventh rays; anal with a similar but much smaller spot between the fourth and fifth rays; caudal and pectorals uniform light brown; ventrals much darker.

Described from a single specimen, 80 millim. long, forwarded from Dunk Island to the A.F.A.Q. Museum, by Mr. E. J. Banfield, Cat. No. 1515.

This species differs from every other Queensland *Amia*, except *A. nigripes* (q.v.), in the presence of a complete nuchal shield which entirely excludes any predorsal scales.

I have much pleasure in naming this beautiful species after Mrs. Bertha Hamlyn, the wife of Dr. Hamlyn-Harris, Director of the Queensland Museum, who has kindly permitted me so to designate it.

AMIA NIGRIPES sp. nov.

BLACK-FOOTED PERCELLE.

Pl. v, fig. 2.

D. vii, i 9; A. ii 8; P. 15: Sc. 2/23/6. Depth of body 2, length of head 2.5, of caudal fin 4, of pectoral 4, of ventral 3 in length of body. Depth of caudal peduncle 2.4, length of snout 3.9, diameter of eye 3.4, width of interorbit 3.65, length of maxillary 1.75, longest dorsal spine 2, longest ray 1.7, second anal spine 3.3, longest ray 2.1 in length of head.

Body short and stout, the ventral contour more arched than the dorsal, its depth one fifth more than the length of the head. Upper profile of head and nape linear throughout; length of snout 1.15 in the diameter of the eye, which is slightly more than the feebly convex interorbital width. Lower jaw projecting; maxillary extending to below the middle of the orbit, the width of its distal extremity 2 in the eye-diameter. Outer edge of preopercle feebly denticulated throughout its entire length. Scales adherent; nape scaleless; 2 interdorsal scales.

First dorsal fin well developed, the spines strong; second rather less than half the third, which is the longest, 1.15 in the second and third rays. Caudal rounded. Anal originating below the second dorsal ray. Pectoral short, not extending to above the vent. Middle ventral ray longest, reaching to the anal rays, and 1.33 time the length of the pectoral, its spine 1.3 in that of the spinous dorsal and 1.15 time that of the soft.

Gill-rakers 5×13 , the longest 2 in the eye-diameter.

Dark brown, with a large round blackish spot between the pectoral fin and the lateral line. Cheeks paler, with an oblique blackish bar from below the middle of the eye to the angle of the inner preopercular ridge; lower surface of head and throat pale yellow. Dorsal, anal, and ventral fins black, the former broadly edged with yellow; caudal and pectorals uniform yellow.

Described from a specimen, measuring 84 millim., captured at Sandgate by Mr. G. Shaw; Cat. No. A.F.A.Q. Mus., 1221.

SERRANIDÆ.

EPINEPHELUS ESTUARIUS (Macleay).

Serranus estuarius Macleay, Proc. Linn. Soc. N. S. Wales, viii, 1883, p. 200 : Mary River.

SPOTTED RIVER COD.

D. xi 14 to 16; A. iii 8; P. 19: Sc. 18 to 20/108 to 116/40 to 44; L. 1. 60 to 64. Depth of body 3·35 to 3·45, length of head 2·66 to 2·8, of middle caudal rays 3·95 to 4·15, of pectoral fin 4 to 4·3, of ventral 5·3 to 5·5 in length of body. Length of snout 3·75 to 4·05, diameter of eye 6·2 to 6·55, width of interorbit 5·1 to 5·75, length of maxillary 2, longest dorsal spine 2·9 to 3·1, longest anal 3·9 to 4·35 in length of head.

Body elliptical; caudal peduncle about as deep as long, its least depth 2·55 to 2·75 in the depth of the body. Upper profile of head linear and moderately oblique; width of preorbital 1·8 to 2 in the eye-diameter, which is 1·55 to 1·75 in the length of the snout and 1·1 to 1·3 in the flat interorbital region; nostrils subequal; lower jaw projecting; maxillary extending to below or beyond the vertical from the posterior border of the eye, the width of its distal extremity 1·33 to 1·55 in the eye-diameter. Lateral mandibular teeth biserial anteriorly; canines moderate. Vertical limb of preopercle convex and serrated; angle rounded, not or but slightly produced, and armed with 3 to 5 strong spines; upper opercular spine rather nearer to the middle and inserted further forward than the lower spine; opercular flap pointed, its upper border linear or feebly concave. Lateral scales ciliated, those of head, nape, throat, breast, abdomen, and a narrow strip along the bases of the vertical fins cycloid; upper half of maxillary with or without a band of minute scales.

Dorsal fin originating above the axil of the pectoral ; first spine 1.55 to 1.7 in the last, which is equal to or a little shorter than the second or tenth ; fourth to sixth spines longest, scarcely longer than the third and seventh, and 1.3 to 1.5 in the middle rays ; soft dorsal and anal fins rounded ; third anal spine as long as or a little longer than the second, and 1.7 to 1.95 in the middle rays, which are slightly shorter than those of the dorsal. Caudal rounded. Pectoral extending to the vertical from the seventh or eighth dorsal spine, its length equaling or slightly exceeding the postorbital portion of the head. Ventral obtusely pointed, the second ray longest, not reaching so far back as the pectoral, and not nearly to the vent,

Gill-rakers as long or scarcely as long as the gill-fringes, 17 on the lower branch of the anterior arch, of which 7 or 8 are rudimentary, the longest 1.6 to 2.33 in the eye-diameter.

Life-colors: Purplish brown, the lower surface of the head, interopercles, breast, and abdomen bluish gray ; upper surface and sides of head and body with scattered orange spots, which are scarcely as large as the pupil and are more numerous on the pectoral region than elsewhere ; on the lighter areas the spots are rather larger and lilaceous, except on the mandibles, where they are greenish yellow ; a large blue-gray spot, bordered above by a purple band on the cheek close behind the maxilla. Iris golden, with a narrow purple inner rim, and clouded above with purple. Fins olive-green, the dorsal orange-spotted, chiefly along the base ; base and lower half of caudal with rather obscure darker spots ; anal and pectoral fins immaculate, the latter with a narrow paler border ; outer portion of ventral membranes lavender.

The above is the normal coloration of specimens taken in the sea, while those captured in fresh or brackish water are, as might be expected, uniformly duller ; these are purplish brown above, gradually shading to a dull yellowish white below, the back with or without lighter blotches ; head, body and fins with numerous round black spots, as large as or smaller than the pupil.

Other noticeable differences are that in the ocean fish the preopercular serræ are stronger, especially at the angle ; the band of scales on the maxillary is more evident ; and the gill-rakers, though

similar in number, and bearing the same proportion of functional to rudimentary, are decidedly longer.

Boulenger* includes this species, with a query, in the synonymy of *Epinephelus tauvina*, but it differs from that species notably in the greatly increased number of scales above the lateral line, the biserial mandibular teeth, the rounded and strongly armed preopercular angle, the rounded spinous dorsal in which the fourth to sixth spines are appreciably longer than those behind them, etc.

Length of body 350 millim.

Coasts and rivers of Southern Queensland.

The Estuary Cod has so far been recorded only from the short stretch of coast lying between Moreton Bay and the Mary River; but, as it is common in all suitable localities within these limits, it doubtless ranges considerably further to the south and north. The specific name given by Macleay to this species is eminently suitable, as it is essentially a river fish, being much less frequently caught in pure salt water than in the mixed water of our estuaries; nor does it confine itself to these alone but pushes upwards far beyond the tideway. Residents on the Upper Logan tell me that it is not uncommon in the deeper reaches of that river, and I have been also informed by several reliable correspondents that it is well known to anglers in the Noosa lakes (which are sweet water), is permanently established, and breeds there; one of Brisbane's most successful amateur anglers has also mentioned having taken it in the Lockyer River at Gatton. Negative evidence as to its preference for more or less fresh water may be adduced from the fact that during the "Endeavour's" six weeks' fishing in Queensland waters not a single example was obtained either by net or line. It is an excellent table fish, and is always looked upon as a valuable prize by anglers.

Described from three specimens, measuring over all from 312 to 357 millim., taken in Moreton Bay and the Brisbane River (2).

LABRIDÆ.

CHÆRODON WEBERI sp. nov.

D. xiii 7; A. iii 10; P. 15: Sc. 3/27/10. Depth of body 2·6, of caudal peduncle 6·2, length of head 3, of caudal fin 4·55, of

* Brit. Mus. Catal. Fish., ed. 2, i, 1895, p. 244.

pectoral 3.35, of ventral 4.2 in length of body. Length of snout 2.15, diameter of eye 4.5, width of interorbit 4.35, last dorsal spine 2.75, last anal 2.6 in length of head.

Dorsal contour of body linear or but feebly arched, considerably higher than the ventral contour, its highest point above the base of the pectoral. Head as deep as long; upper profile of snout sublinear and rather strongly declivous. Eye small, its diameter 1.5 in the depth of the preorbital. Cleft of mouth extending to below the anterior nostril. Anterior canines moderate; tips of lateral mandibular teeth prominent; no posterior canine. Preopercle very finely serrated. Cheeks with seven series of non-imbricate scales; some of the opercular scales as large as the breast-scales; scales at the base of the caudal fin somewhat enlarged and angulated.

Soft dorsal and anal fins of moderate height, obtusely pointed and subequal posteriorly, the penultimate rays just reaching beyond the base of the caudal. Caudal fin feebly rounded. Pectoral rounded, the fourth ray longest, but little longer than the third, and extending to below the twelfth scale of the lateral line. Ventral obtusely pointed, the second ray longest, reaching to or not quite to the vent.

Upper surface and sides purple, shading into vinous gray below, the latter color extending upward as a conical bar from below the middle of the appressed pectoral to the lateral line,* and posteriorly suffusing the whole peduncle above the lateral line, the purple being represented only by a narrow band below and including that line. Cheeks and opercles with a rufous tinge, and closely studded with small light blue spots. Dorsal fin purple, except the last two rays, which are vinous like the peduncle, the spinous portion with a faint darker longitudinal band on its outer half; caudal fin dull blue-gray; anal, ventral, and pectoral fins grayish yellow, the latter with a blackish base.

I have much pleasure in naming this handsome species after my valued correspondent Professor Max Weber of Amsterdam, who, like myself, has recently paid some attention to the fishes of the Aru Islands.

* Sometimes this bar is faint, rarely absent.

Described from 7 examples, measuring between 121 and 197 millim., obtained by Mr. John Colclough, at Dobo, Aru Islands, and by him presented to the A.F.A.Q. Museum. Cat. No. 1170.

SCORPÆNIDÆ.

Just twenty-five years ago Mr. De Vis, under the name *Apistus caloundra*, described a new Queensland fish from the Moreton District. Of the differences between his species and the typical *Apistus (alatus)* he writes:—"To these, the fish now brought under notice is closely allied; and, notwithstanding that it differs in two structural features of some importance—namely, in having but fourteen spines in the dorsal fin, and the pectoral reduced to a size unfitting it for an organ of flight—I refer it to the same genus *Apistus* because it appears to me preferable to relax somewhat the character of a genus founded on two species only, rather than burden the system with a new one, which does not seem necessary."

There are, however, other differences which seem to me to justify generic recognition, which I therefore accord to it under the name

APISTOPS gen. nov.

Lateral line incomplete ceasing on the peduncle; orbital ridges smooth; a short, but strong and acute, humeral spine present; dorsal fin but little notched, with fourteen spines; pectorals comparatively short, not reaching to the soft anal rays.

APISTOPS CALOUNDRÆ (De Vis).

Apistus caloundra De Vis, Proc. Roy. Soc. Queensl., ii, 1886, p. 145: Caloundra.

SHORT-ARMED WASP FISH.

D. xiv 9; A. iii 7: Sc. 7/52/17. Depth of body 3·9, length of head 2·66, of caudal fin 4, of pectoral 2·25, of ventral 3·5 in length of body. Length of snout 3·4, diameter of eye 4·5, width of inter-orbit 7·8, length of maxillary 2·35, longest dorsal spine 2·25, longest anal 2·6, detached pectoral ray 2·6 in length of head.

Superior projection of lower jaw shorter and more obtuse; five barbels, the median very short; anterior lateral pair inserted but little behind the base of and not much longer than the median; posterior pair a little longer, about midway along the mandible.

Mouth but little oblique, the tips of the premaxillaries somewhat below the level of the eye, the posterior border of which is midway between the tip of the opercle and that of the snout; maxillary extending to rather beyond the anterior border of the pupil, the width of its distal extremity half the eye-diameter; interorbit narrow and concave, with a pair of feeble parallel ridges, which expand behind into a cup-shaped figure enclosing the occiput; width of interorbit 1.75 in the eye-diameter; supraorbital ridge everywhere smooth. Posterior spine of preorbital curved and directed backward; preopercle with four spines, the upper long and acute, the others short and blunt; a short but strong and sharp humeral spine. Cheeks covered by a bony plate, bearing a well-defined median ridge from which run oblique striæ; a few small scales behind the tip of the maxillary.

Length of soft portion of dorsal 2.35 in that of the spinous; first dorsal spine one fifth shorter than the last, which equals the two preceding ones and the third, and is 1.2 in the tenth, which slightly exceeds the pair adjacent to it; second, third, and fourth rays longest, but not extending so far back as those which immediately succeed them and just reach the base of the caudal. Caudal fin rounded. Anal originating below the twelfth dorsal spine, the middle rays longest, not quite so long as, but reaching further back, than those of the dorsal; first spine 1.45 in the second and 1.7 in the third, which is 1.25 in the longest ray. Pectoral short, the first ray longest, extending to above the last anal spine; detached pectoral ray about one third the length of the first ray; base of fin 4.7 in its length. Ventral large, 1.55 in the pectoral.

Gill-rakers 4×10 , the longest 1.75 in the eye-diameter.

Coloration (*fide* De Vis).—"A broadly white-edged black blotch between the ninth and twelfth spines of the dorsal; top of the webs between the first two spines also black. Upper surface of the snout, a broad band across the occiput, a narrow curved band from the snout through the edge (? eye) to the base of the opercular spine, two large blotches on the upper part of the trunk connected and apparently traversed by three longitudinal bands, two horizontal bands on the soft dorsal, three vertical bands on the caudal, and the lower third of the pectoral black."

At the present time the body of the fish is dull yellow without any markings whatever; there is a narrow smoky brown bar, broadest mesially between the postero-superior angles of the eye, and a much interrupted curved lighter band from the side of the snout to the base of the preopercular spine. The dorsal spot and the caudal are still present but much faded, and the lower pectoral ray and outer two thirds of the ventrals are smoky brown.

Described from the type specimen in the Queensland Museum, 104 millim. long; Reg. No. I. 11/27.

TRIGLIDÆ.

Finding it necessary to establish a new genus for the reception of those species of trigloid fishes hitherto associated with *Lepidotrigla*, but differing therefrom in the presence of a spinigerous lateral line, I propose to separate these by the name *Paratrigla*, taking Richardson's *Trigla pleuracanthica* as the type. The key to the Queensland *Triglidae* will therefore be as follows:—

- a*¹. No palatine teeth; a series of spinigerous shields along the base of the dorsal fin.
- b*¹. Scales rather large, in about 50 to 65 transverse series.
 - c*¹. Lateral line unarmed 1. *Lepidotrigla*.
 - c*². Lateral line spinigerous 2. *Paratrigla*.
- b*². Scales small, in more than 100 transverse series;
 - lateral line unarmed 3. *Chelidonichthys*.

CALLIONYMIDÆ.

CALLIONYMUS MACDONALDI sp. nov.

GRAY-SPOTTED DRAGONET.

Pl. vi, fig. 2.

D. iv, 9; A. 9; P. 18. Depth of body 9·4, width of body 5, length of head 2·85, of first dorsal spine 11·75, of caudal fin 4, of pectoral 4, of ventral 3·2 in length of body. Depth of head 3·2, width of head 1·4, length of snout 3·9, diameter of eye 4·8, length of preopercular spine 4·25, longest dorsal ray 2·1, longest anal 2·6 in length of head.

Body much depressed, nearly flat above, the greatest depth at the base of the pectoral; least depth of caudal peduncle 1·6 in the

eye-diameter. Snout obtuse, one fifth wider than long, its depth 1.4 in its length; eyes separated by a narrow groove, its width 3.65 in the eye-diameter, which is 1.25 in the length of the snout and 3.4 in the width of the head; orbital ridges elevated, extending round the upper half of the eye; rostral ridges short and well developed. Maxillary extending to below the nostril. Preopercular spine strong, the free portion shorter than the eye-diameter, its distal extremity curved upward, its upper border with 5 strong teeth graduated upwards from the base; a short stout antrorse spine at the base below. Occiput rather weakly ridged and pitted, smooth to the touch. Lateral line curved downward anteriorly, straight from above the pectoral fin; nuchal branch straight and inconspicuous; cephalic extension curved downward to the upper angle of the preopercle, where it bifurcates, the anterior branch entering the postero-inferior angle of the orbit, the hinder branch descending vertically to the base of the preopercular spine, and throwing off a short ramule across the opercle.

Origin of spinous dorsal midway between the soft dorsal and the gill-opening; spinous dorsal low, none of the spines filamentous, the first the longest, not extending backward beyond the base of the fin, which is subequal to the free interdorsal space; last spine short, with fully developed membrane. Soft dorsal moderate, the rays simple except the last, increasing in length to the fourth, beyond which they decrease by a feeble gradation to the seventh, whence they rise to the last, which equals the fourth but does not reach to the caudal; base of soft dorsal less than its distance from the eye. Caudal rounded. Anal originating below the third dorsal ray and terminating well behind that fin, the rays simple or feebly branched at the extremities, similar to but lower and a little shorter than the soft dorsal, its base 1.85 in its distance from the tip of the mandible; last ray extending to the base of the caudal. Pectoral fin cuneate, inserted below the anterior dorsal spines, all the rays except the first divided, the seventh and eighth longest, reaching to below the fifth dorsal ray. Ventral rays profusely branched, the fourth and fifth equal and longest, extending to the vent.

Gill-openings superior, small and slit-like, far in advance of the spinous dorsal, as far apart as the length of the snout, and nearer to the eye than to the pectoral or dorsal fins.

Upper surface of body plumbeous, profusely spotted and vermiculated with gray; lower surface white. Occiput darker than the body and more sparsely spotted; snout, interorbit, and sides of head gray with numerous darker spots and bars; anterior border of eyelid white. Spinous dorsal black; soft dorsal, caudal, and pectorals lavender, the rays with alternate darker and lighter bars; anal white, except the last ray, which is mesially dusky; ventrals gray, profusely marbled with darker.

Described from a specimen, 125 millim. long, taken in Moreton Bay by Mr. G. T. Bond, and presented by him to the A.F.A.Q. Museum, Cat. No. 1491.

Named for my friend, Captain Donald MacDonald, late first officer of the F.I.S. "Endeavour," and now chief pilot at Keppel Bay, to whom I am indebted for many favours.

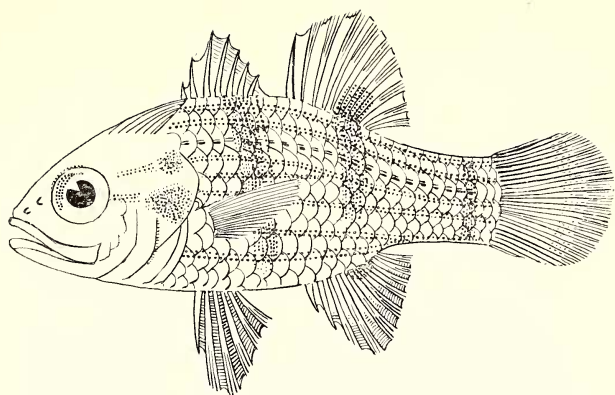


FIG. 1.—AMIA BERTHÆ OGILBY.
(Natural Size.)

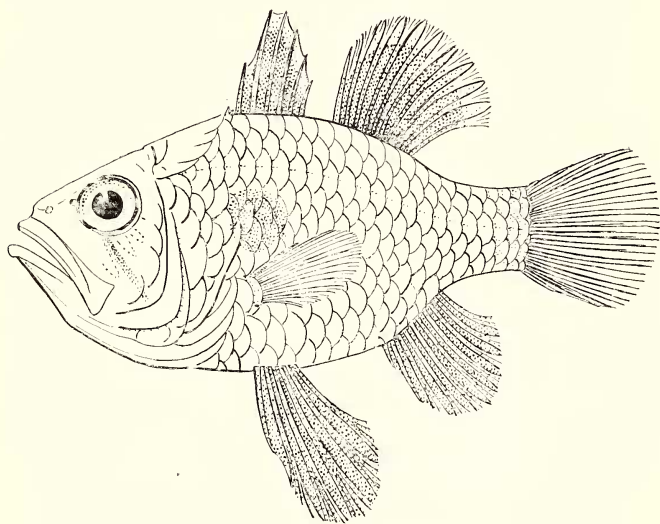


FIG. 2.—AMIA NIGRIPES OGILBY.
(Natural Size)

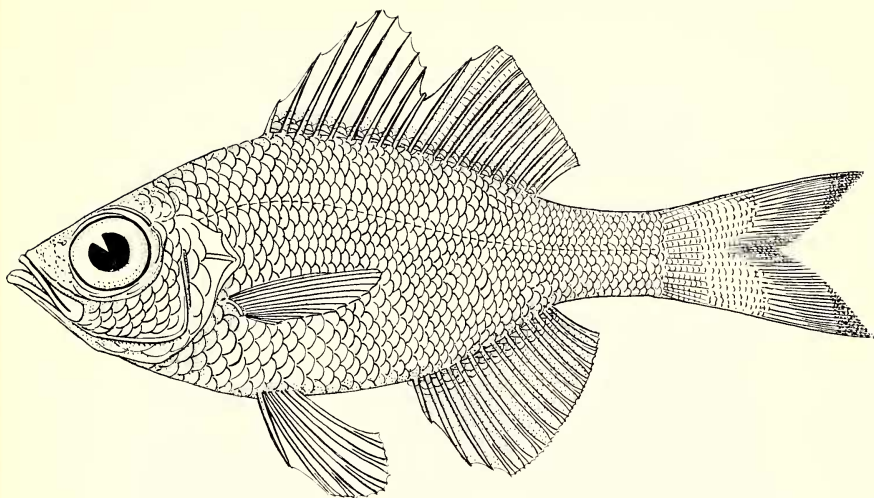


Fig. 1.—*KUHLIA HUMILIS* (DE VIS).
(Natural Size)

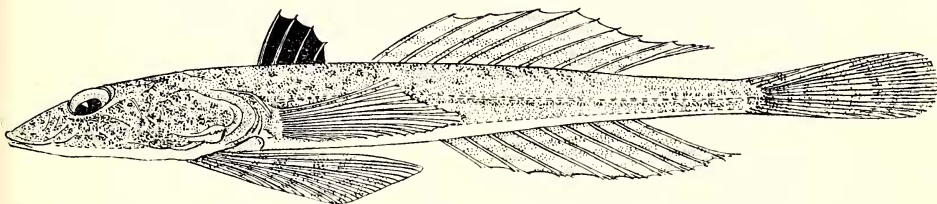


FIG. 2.—*CALLIONYMUS MACDONALDI* OGILBY.
(Natural Size.)